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## BABYLONIAN MAGIC AND SORCERY.

*Babylonian Magic and Sorcery.* By L. W. King, M.A.  
Pp. xxx + 199. (London : Luzac and Co., 1896.)

IT is clear from the seventy-five plates of cuneiform texts with which Mr. King has furnished his book, that he addresses himself mainly to the little group of cuneiform scholars who in England, America, and Germany are pushing on their science with strenuous endeavours; but those who take the trouble to read his translations of these texts, and his remarks upon the same, will at once see that he is in reality speaking to a much larger audience—namely, to all those who take an interest in the science of the ancient religions of the world, and to those who spend their time in tracing the development of the sister subjects of magic and sorcery from the earliest ages to the present day. The foundation of all real study in comparative religion must, after all, be the documents which the priests wrote, and the copies of them which the scribes attached to the temples made for their use; no student of anthropology can afford to neglect the evidence obtained from these sources, and the student of comparative religion who ignores them imperils both his credibility and reputation. Further, all schemes of the religions of ancient nations which are drawn up without due consideration of every available document must be defective, and are, probably, useless, and no man should theorise without his sheaf of facts, that is to say his ancient texts, at his elbow. It is now some sixty years since Rawlinson and Lassen found the key which unlocked our storehouse of native Babylonian and Assyrian information on this subject; and yet until within the last five years we possessed very little exact information concerning the religious beliefs of the Babylonians and of the people of the more northerly country of Assyria. We had translations of hymns and of documents which were clearly of a religious nature, but they afforded us no real insight into the system of religion which existed in Mesopotamia in the earliest times; moreover, both texts and translations were generally fragmentary and disconnected, and in cases where they were not so the reader was puzzled, and could not guess their true significance. Little by little, however, as students devoted themselves to the subject, it was found that the text on a tablet was not necessarily complete in itself, and soon it was recognised that many tablets were needed for copying a religious work, or, as we might say, "service." Next it was found that certain parts of the texts consisted of rubrical directions, and then it was known that we had become the fortunate possessors of copies of the "service-books" which were probably in use in Babylonia several thousands of years before Christ. Most of these copies were made by the order of the great King Assur-bani-pal (Asnapper), for use in his Royal Library at Nineveh in the seventh century B.C.; and, as a large number of words, names, and phrases in them were in the agglutinative language of the non-Semitic peoples of Mesopotamia, it was pretty clear that the king had had these compositions trans-

lated from it into his own Semitic speech. We now know that the ancient peoples of Mesopotamia possessed a series of legends concerning the Creation of the heavens and of the earth and of all that is therein; a series of legends of the deeds of the mythical hero Gilgamesh; and a series of mythological stories. They had formed in their imagination an abode for the gods, and an underworld wherein the souls of the dead had their place together with the infernal gods. They had, at an early date, formulated a great trinity of Anu, Ea and Bel, and they gave to one of their gods, at least, the attribute of mediator and intercessor between men and their god. They believed in the efficacy of prayer when accompanied by certain ceremonies, and in brief they held many religious ideas and beliefs in common with their cousins the Hebrews. Whether they ever succeeded in establishing a personal relation with their god or gods, is open to doubt; but the texts which Mr. King has published lead us to think that a development in this direction was going on when the Assyrian Empire was overthrown. The group of compositions which Mr. King has edited belongs to a class of texts which are known to scholars as the "Prayers of the Lifting of the Hand," and all of them were written for the use of individuals, the name of the suppliant at times being given. Many prayers to be efficacious must be accompanied by an offering of some object to the god, and it was necessary that the rubrical directions should be strictly adhered to; certain prayers were, however, only potent at certain times—as, for example, on a lucky day, or at night, or during a certain phase of the moon. It is probable, too, that, as in ancient Egypt, the correct recital of a prayer was deemed of the first importance, and that any prayer offered without the burning of incense was in vain. The use of fire in the accompanying ceremonies was common and of the utmost importance, and its purifying properties were well understood; and as the flame consumed the object which the suppliant, or the priest on his behalf, cast into it, so the disease, or calamity, or trouble vanished straightway. The part played by fire in certain religious ceremonies was so prominent that two series of inscribed Assyrian tablets were called *Shurpu* and *Maklū* respectively; both these names mean "burning." As a specimen of a petition, we quote the following lines from an address to Ishtar:—

"Have mercy on me, O Ishtar! Command abundance.  
"Truly pity me and take away my sighing. . . .  
"I have borne thy yoke: do thou give consolation. . . .  
"I have sought thy light: let thy brightness shine.  
"I have turned towards thy power: let there be life and peace. . . .  
"Speak, and let the word be heard.  
"Let the word I speak, when I speak, be propitious.  
"Let health of body and joy of heart be my daily portion.  
"My days prolong, life bestow: let me live, let me be perfect, let me behold thy divinity.  
"When I plan, let me attain (my purpose): Heaven be thy joy, may the Abyss hail thee."

When these words had been said an offering of incense and a drink-offering were set before Ishtar, and the suppliant raised his hand three times.

Our space will not admit of further quotation from this interesting work, and we have only to add, for the in-

formation of the general reader, that it should be studied in connection with the recent works of Tallqvist and Zimmern on the *Maklū* and *Shurpu* series of tablets in the British Museum. A word of praise is justly due to Mr. King for his honest work, and although the introduction might have been fuller with advantage to the reader, the translations, and transliterations, and vocabulary will help to make the texts at the end of the book understood by every careful reader.

#### MICRO-ORGANISMS AND DISEASE.

*Micro-organisms and Disease; an Introduction to the Study of Specific Micro-organisms.* By Dr. E. Klein, F.R.S. New edition. Pp. xii + 595. (London: Macmillan & Co., Ltd., 1896.)

THE rapid strides which have been made in bacteriological science during the last few years render the frequent revision of the text-books on the subject a necessity. It is a noteworthy fact that although bacteriology is one of the newest of the sciences, it is rapidly becoming so large a subject that specialisation in one branch or other of it is almost essential.

Dr. Klein's book treats mainly of that particular branch of bacteriology which deals with "pathogenic" micro-organisms, including only a very small number out of the total known species. Other branches of bacteriology have also their specialised handbooks—*e.g.* the micro-organisms in water are sufficiently numerous and well-known to require a text-book to themselves, whilst it would be easy to mention other branches of the subject which will soon require similar treatment. In this new (third) edition of Dr. Klein's work we find the subject brought practically up to date. The present edition is enlarged to 595 pages, as against 267 pages in the previous one. There are 80 additional illustrations, as compared with the last edition, making 201 in all. Amongst them are inserted, for the first time, a number of well-reproduced photographs of cultures and of excellent stained preparations of bacteria, taken by the well-known photomicrographers Messrs. Pringle and Bousfield. These are almost uniformly good, but photographs, such as Fig. 63A, mar an otherwise fine series.

The introductory chapters deal with bacteriological technique, such as the preparation of culture media, stained microscopic preparations, methods of inoculation and cultivation, bacteriological examination of water, air and soil. Then follows a full discussion of the general characters of bacteria—more especially of the pathogenic organisms—in which their mode of growth, spore formation, means of motility, &c., are discussed.

The chapter on "The Chemistry of Bacteria," confined as it is to a dozen pages, merely serves to show how meagre is the bacteriologist's knowledge of this part of the subject. It is a chapter, however, which might easily be amplified with advantage. For example, in writing on the liquefaction of gelatine, no mention is made of the fact that such liquefaction is due to an enzyme, and that it can be brought about by the agency of sterile filtered cultures of liquefying bacteria, apart from the bacteria themselves. Similarly, no reference is made to other enzymes, such, for instance, as those which bring about the hydrolysis of starch, &c.

A brief glance at the succeeding chapters will show how extensive is the list of diseases which are associated with specific micro-organisms. To mention only a few of the best known, we find considered in this book—often very exhaustively—typhoid, cholera, tuberculosis, tetanus, diphtheria, influenza, erysipelas, pneumonia, gonorrhœa, anthrax, glanders, relapsing fever, fowl cholera, grouse disease, Oriental plague, &c.

In the concluding chapters we find an epitome of the latest results of the labours of many workers in the field of serum therapeutics, a subject which is just now attracting so much attention from medical men and bacteriologists, and the experimental results of which are of the most far-reaching importance. The newest methods of research are clearly set forth, and the results obtained by recent workers are fully discussed.

Dr. Klein's views on the proper interpretation of the results of researches in various branches of his subject are frequently at variance with those of other authorities, yet it is refreshing to find—in these days of the premature publication of incomplete work—an author who is ready to stand out for a logical proof of the correctness of conclusions which are often drawn from meagre and incomplete evidence. There is no one in this country whose views on various controversial matters, coming within the scope of the book, are more entitled to careful consideration than are those of Dr. Klein.

The latest methods of protective inoculation by anti-toxic blood serum, more particularly in diphtheria and tetanus, are noticed and discussed. In this connection one regrets that more space is not devoted to the closely related subject of snake-poison and its antidote. The methods pursued are so similar, and the results already achieved are so important, that the subject might easily be brought within the scope of the book, especially as such diseases as cancer are included, although a disease which is most probably not associated with micro-organisms.

Under the heading of "Protozoa causing disease" is found a valuable discussion of the vexed question of the parasitic or non-parasitic nature of cancer. Dr. Klein shows very clearly the kind of fallacy into which the "parasitologists" and discoverers of "cancer organisms" have easily fallen.

Bacteriology has, during the last few years, become more and more complex. Where a single organism was previously recognised, it is now becoming certain that there are very many modifications and sub-varieties of each, which can only be differentiated and distinguished from each other by difficult methods. Nowhere is this more obvious than in reading the chapters containing descriptions of *Bacillus coli communis* and of the typhoid and cholera organisms.

The book is beautifully printed, and, with a few exceptions, the illustrations merit great praise.

There seem to be very few misprints. On p. 89, however, a reference is made to the work of Downes and Lunt; this should, of course, be Downes and Blunt. Also, on pp. 588 and 595, Vehring is inserted for Behring.

The author is to be congratulated on the completion of this revised and much enlarged edition of his valuable book, which ought to be in the hands of every medical man.

JOSEPH LUNT.